

Appl. No. 09/807,922
Amdt. dated December 10, 2003
Reply to Office action of September 11, 2003

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-12. (Canceled)

13. (Currently amended) In an injector for a common rail injection system for internal combustion engines, having a valve control chamber (11)[[,]] defined at one end by the end face (33) of a nozzle needle (21), in which the fuel inlet to the control chamber takes place via an inlet throttle (9) and the fuel outlet takes place via an outflow throttle (13), and there is a closing piston (34) in the valve control chamber (11), the improvement wherein the closing piston (34) has a larger diameter than the nozzle needle (21).

14. (Previously presented) The injector of claim 13, wherein the closing piston (34) is disposed between the inlet throttle (9) and outflow throttle (13) on one side and the nozzle needle (21) on the other.

15. (Previously presented) The injector of claim 13, wherein the closing piston (34) has a first bore (35), extending between its end faces (45, 47).

16. (Previously presented) The injector of claim 13, wherein the closing piston (34) has a throttle bore (36) extending between its end faces (45, 47).

17. (Previously presented) The injector of claim 13, wherein that a stroke stop (37) is provided in the valve control chamber (11) and limits the displaceability of the closing piston (34) in the direction of the inlet throttle (9) and the outflow throttle (13).

18. (Previously presented) The injector of claim 13, wherein a closing spring (40) is present, which is braced against the closing piston (34) and the nozzle needle (21).

19. (Previously presented) The injector of claim 18, wherein that the closing spring (40) is disposed in the valve control chamber (11).

20. (Previously presented) The injector of claim 18, wherein the closing spring (40) is braced against the end face (33) of the nozzle needle (21).

21. (Currently amended) The injector of claim ~~[[13]]~~ 15, wherein the nozzle needle (21) has a pin (38) protruding in the direction of its longitudinal axis and past its end face (33).

22. (Previously presented) The injector of claim 21, wherein the first bore (35) of the closing piston (34) is closable by the pin (38).

23. (Previously presented) The injector of claim 22, wherein the first bore (35) of the closing piston (34) has a sealing seat (39) on the face end toward the nozzle needle (21), and the pin (38) has a corresponding sealing cone.

24. (Previously presented) The injector of claim 13, wherein the inlet throttle (9) and/or the outflow throttle (13) is disposed in a housing (29) of the injector.

25. (Previously presented) The injector of claim 14, wherein the closing piston (34) has a throttle bore (36) extending between its end faces (45, 47).

26. (Previously presented) The injector of claim 15, wherein the closing piston (34) has a throttle bore (36) extending between its end faces (45, 47).

27. (Currently amended) The injector of claim ~~[[13]]~~ 14, wherein that a stroke stop (37) is provided in the valve control chamber (11) and limits the displaceability of the closing piston (34) in the direction of the inlet throttle (9) and the outflow throttle (13).

28. (Previously presented) The injector of claim 14, wherein a closing spring (40) is present, which is braced against the closing piston (34) and the nozzle needle (21).

29. (Previously presented) The invention defined in claim 28, wherein said closing piston (34) has a first bore (35) and a throttle bore (36) extending between its end faces (45, 47).

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30. (Previously presented) The injector of claim 29, wherein that the closing spring (40) is disposed in the valve control chamber (11).

31. (Previously presented) The injector of claim 19, wherein the closing spring (40) is braced against the end face (33) of the nozzle needle (21).

32. (Previously presented) The injector of claim 14, wherein the nozzle needle (21) has a pin (38) protruding in the direction of its longitudinal axis and past its end face (33).
